428 Rec'd PCT/PTO 15 MAR 2000

FORM PTO-1390 (REV 11-98) U.S. DEPARTMENT OF COMMERCE PATENT AND TRADEMARK OFFICE

TRANSMITTAL LETTER TO THE UNITED STATES DESIGNATED/ELECTED OFFICE (DO/EO/US) CONCERNING A FILING UNDER 35 U.S.C. 371

ATTORNEY'S DOCKET NUMBER: 00049

U.S. APPLICATION NO. (If known, see 37 CFR 1.5): 09/508088

INTERNATIONAL APPLICATION NO.	INTERNATIONAL FILING DATE	PRIORITY DATE CLAIMED
PCT/NZ98/00138	18 September 1998	19 September 1997

TITLE OF INVENTION: FINANCIAL SERVICES SYSTEM FOR REDUCING RISKS IN INVESTMENTS

APPLICANT(S) FOR DO/EO/US: Vasilios Yioryios PAPAYIORYIOU

23338

PATENT TRADEMARK OFFICE

Applicant herewith submits to the United States Designated/Elected Office (DO/EO/US) the following items and other information:

1. [X] This is a **FIRST** submission of items concerning a filing under 35 U.S.C. 371.
2. [ ] This is a **SECOND** or **SUBSEQUENT** submission of items concerning a filing under 35 U.S.C. 371.
3. [ ] This express request to begin national examination procedures (35 U.S.C. 371(f)) at any time rather than delay examination until the expiration of the applicable time limit set in 35 U.S.C. 371(b) and PCT Articles 22 and 39(1).
4. [ ] A proper Demand for International Preliminary Examination was made by the 19th month from the earliest claimed priority date.
5. [X] A copy of the International Application as filed (35 U.S.C. 371(c)(2)) /published with the International Search Report
   a. [X] is transmitted herewith (required only if not transmitted by the International Bureau).
   b. [ ] has been transmitted by the International Bureau.
   c. [ ] is not required, as the application was filed in the United States Receiving Office (RO/US).
6. [ ] A translation of the International Application into English (35 U.S.C. 371(c)(2)).
7. [ ] Amendments to the claims of the International Application under PCT Article 19 (35 U.S.C. 371(c)(3))
   a. [ ] are transmitted herewith (required only if not transmitted by the International Bureau).
   b. [ ] have been transmitted by the International Bureau.
   c. [ ] have not been made; however, the time limit for making such amendments has NOT expired.
   d. [ ] have not been made and will not be made.
8. [ ] A translation of the amendments to the claims under PCT Article 19 (35 U.S.C. 371(c)(3)).
9. [X] An oath or declaration of the inventor(s) (35 U.S.C. 371(c)(4)).
10. [ ] A translation of the annexes to the International Preliminary Examination Report under PCT Article 36 (35 U.S.C. 371(c)(5)).

Items 11. to 16. below concern document(s) or information included:

11. [X] An Information Disclosure Statement under 37 CFR 1.97 and 1.98.
12. [ ] An assignment document for recording. A separate cover sheet in compliance with 37 CFR 3.28 and 3.31 is included.
13. [X] A FIRST preliminary amendment.
    [ ] A SECOND or SUBSEQUENT preliminary amendment.
14. [ ] A substitute specification.
15. [ ] A change of power of attorney and/or address letter.
16. [X] Other items or information:

    Small entity statement

COPY

U.S. APPLICATION NO. (if known, see 37 CFR 1.5) 09/508088	INTERNATIONAL APPLICATION NO. PCT/NZ98/00138	ATTORNEY'S DOCKET NUMBER 00049

17. [X] The following fees are submitted:	CALCULATIONS PTO USE ONLY	
BASIC NATIONAL FEE (37 CFR 1.492 (a) (1) - (5)) :		
Neither international preliminary examination fee (37 CFR 1.482) nor international search fee (37 CFR 1.445(a)(2)) paid to USPTO and International Search Report not prepared by the EPO or JPO **$970.00**		
International preliminary examination fee (37 CFR 1.482) not paid to USPTO but International Search Report prepared by the EPO or JPO **$840.00**		
International preliminary examination fee (37 CFR 1.482) not paid to USPTO but international search fee (37 CFR 1.445(a)(2)) paid to USPTO **$760.00**		
International preliminary examination fee paid to USPTO (37 CFR 1.482) but all claims did not satisfy provisions of PCT Article 33(1)-(4) **$670.00**		
International preliminary examination fee paid to USPTO (37 CFR 1.482) and all claims satisfied provisions of PCT Article 33(1)-(4) **$96.00**		
ENTER APPROPRIATE BASIC FEE AMOUNT =	$ 670.00	
Surcharge of **$130.00** for furnishing the oath or declaration later than [ ] 20 [ ] 30 months from the earliest claimed priority date (37 CFR 1.492(e)).	$	

CLAIMS	NUMBER FILED	NUMBER EXTRA	RATE		
Total claims	13 - 20 =	0	X **$18.00**	$	
Independent claims	4 - 3 =	1	X **$78.00**	$ 78.00	
MULTIPLE DEPENDENT CLAIM(S) (if applicable)			+ **$260.00**	$	
TOTAL OF ABOVE CALCULATIONS =				$ 748.00	
Reduction of 1/2 for filing by small entity, if applicable. A Small Entity Statement must also by filed (Note 37 CFR 1.9, 1.27, 1.28).				$ 374.00	
SUBTOTAL =				$ 374.00	
Processing fee of **$130.00** for furnishing the English translation later than [ ] 20 [ ] 30 months from the earliest claimed priority date (37 CFR 1.492(f)). +				$	
TOTAL NATIONAL FEE =				$ 374.00	
Fee for recording the enclosed assignment (37 CFR 1.21(h)). The assignment must be accompanied by an appropriate cover sheet (37 CFR 3.28, 3.31). **$40.00** per property +				$	
TOTAL FEES ENCLOSED =				$ 374.00	
				Amount to be: refunded	$
				charged	$

a. [X] A check in the amount of $ 374.00 to cover the above fees is enclosed.

b. [ ] Please charge my Deposit Account No. _____ in the amount of $_____ to cover the above fees. A duplicate copy of this sheet is enclosed.

c. [X] The Commissioner is hereby authorized to charge any additional fees which may be required, or credit any overpayment to Deposit Account No. 04-0753. A duplicate copy of this sheet is enclosed.

NOTE: Where an appropriate time limit under 37 CFR 1.494 or 1.495 has not been met, a petition to revive (37 CFR 1.137(a) or (b)) must be filed and granted to restore the application to pending status.

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09/508088
428 Rec'd PCT/PTO 15 MAR 2000

Dkt. 00049

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:

VASILIOS YIORYIOS PAPAYIORYIOU **PCT**

Serial No.: none assigned
(PCT/NZ98/00138)

Filed: Concurrently Herewith

For: FINANCIAL SERVICES SYSTEM FOR
REDUCING RISKS IN INVESTMENTS

PRELIMINARY AMENDMENT AND INFORMATION DISCLOSURE STATEMENT

Honorable Commissioner of Patents and Trademarks
Washington, D.C. 20231

Sir:

Before calculation of the filing fee, please amend the above-identified application as follows:

IN THE CLAIMS:

Claim 13, line 2, change "any one of the preceding claims" to --claim 1--.

REMARKS

The claims have been amended to delete the multiple dependency.

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Applicant submits herewith copies of the references cited in the International Search Report, which are listed on the attached Form PTO-1449.

Respectfully submitted,

Ira J. Schultz
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STATEMENT CLAIMING SMALL ENTITY STATUS (37 CFR 1.9(f) & 1.27(b))--INDEPENDENT INVENTOR	Docket Number (Optional)

Applicant, Patentee, or Identifier: Vasilios Yioryios PAPAYIORYIOU

Application or Patent No.: PCT/NZ98/00138

Filed or Issued: September 18, 1998

Title: FINANCIAL SERVICES SYSTEM FOR REDUCING RISKS IN INVESTMENTS

As a below named inventor, I hereby state that I qualify as an independent inventor as defined in 37 CFR 1.9(c) for purposes of paying reduced fees to the Patent and Trademark Office described in:

- [X] the specification filed herewith with title as listed above
- [ ] the application identified above.
- [ ] the patent identified above.

I have not assigned, granted, conveyed, or licensed, and am under no obligation under contract or law to assign, grant, convey, or license, any rights in the invention to any person who would not qualify as an independent inventor under 37 CFR 1.9(c) if that person had made the invention, or to any concern which would not qualify as a small business concern under 37 CFR 1.9(d) or a nonprofit organization under 37 CFR 1.9(e).

Each person, concern, or organization to which I have assigned, granted, conveyed, or licensed or am under an obligation under contract or law to assign, grant, convey, or license any rights in the invention is listed below:

- [X] No such person, concern, or organization exists.
- [ ] Each such person, concern, or organization is listed below.

Separate statements are required from each named person, concern, or organization having rights to the invention stating their status as small entities. (37 CFR 1.27)

I acknowledge the duty to file, in this application or patent, notification of any change in status resulting in loss of entitlement to small entity status prior to paying, or at the time of paying, the earliest of the issue fee or any maintenance fee due after the date on which status as a small entity is no longer appropriate. (37 CFR 1.28(b))

Vasilios Yioryios PAPAYIORYIOU
NAME OF INVENTOR

Signature of inventor

13/03/2000
Date

Burden Hour Statement: This form is estimated to take 0.2 hours to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time you are required to complete this form should be sent to the Chief Information Officer, Patent and Trademark Office, Washington, DC 20231 DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Assistant Commissioner for Patents, Washington, DC 20231

428 Rec'd PCT/PTO 15 MAR 2000

FINANCIAL SERVICES SYSTEM FOR REDUCING RISKS IN INVESTMENTS

FIELD OF THE INVENTION

This invention relates to financial services and in particular to computer systems which enable investors to make prudent decisions about the amounts of their investments in relation to their assets, without undue risk to those assets should the investments fail.

BACKGROUND TO THE INVENTION

Investors often rely on part or all of the value of an existing asset to provide funds for investment. Some ordinary assets such as real estate, motor vehicles or a term deposit are especially suitable as the basis for an investment. Other "assets" which may be suitable for this purpose include loaned funds, debts to be collected, credit facilities, and other tangible items which might be termed "liabilities" in some cases. Transaction costs or other disadvantages involved with converting any such asset into a form which will release at least some of its value make many investment possibilities impractical.

One typical way of releasing some value from an asset is for the owner to raise a loan using the asset as collateral. This has a clear disadvantage in that the owner may be tempted to invest most of the full value of the asset and could be required to liquidate the asset to repay an investment loss. Enthusiastic investors often over extend themselves in this way by making an investment which is disproportionate to the value of asset and carries a substantial risk that the asset may be lost.

Various computer systems are known which implement software programs to enable income from assets that do not normally generate any return. One example is found in US 5,083,270 which describes a method and apparatus for releasing value from an asset. Another example is found in EP 572281 which describes a data processing system for allocating financial assets. Such systems operate on mainframe or networked computers operated by financial service institutions such as banks or fund management organisations. None provide methods to indicate prudent limits on the amount invested.

Many assets generate or are capable of generating a return, such as rent from a house or interest from a term deposit. Income of this kind can be considered to have a future value, being the accumulated amount which is expected to have been received from the asset at a future point in time, and a present value, being the value of the accumulated amount to the recipient at the present time. A discount value may also be defined for the asset, being the present value of the expected income.

SUMMARY OF THE INVENTION

It is an object of the present invention to provide software-based methods for a financial service in which a customer is guided to determine an appropriate amount for investment in relation to an existing asset, without unnecessary risk to the asset should the investment prove unsuccessful.

The discount value of the asset can be used to provide a guideline in determining an appropriate amount and term for investment. The discount value may be estimated from the present value of a return which can be derived from the asset. Investing an amount which is less than or approximately equal to the discount value will generally safeguard against possible loss of the asset, by compulsory liquidation to pay off a loan for example. The value of the investment can also be compared to the value of the asset and calculations presented to a customer for a range of possible terms of investment.

Accordingly in one aspect the invention may broadly be said to consist in a method of determining part of the value of an asset for an investment, comprising: receiving data relating to market value of the asset and to a preferred term of the investment, receiving data relating to potential return from the asset over the preferred term, calculating a discount value for the asset, calculating market values for a range of potential investments, using the discount value and the preferred term of investment, presenting a range of market values for the range of investments, and receiving an indication of a selected investment.

In a second aspect the invention may also broadly be said to consist in a method of determining part of the value of an asset for an investment, comprising: receiving data relating to market value of the asset and to a preferred term of the investment, receiving data relating to potential return from the asset over the preferred term, calculating market values for a range of possible investments according to the potential return from the asset, presenting a range of market values for the range of investments, including at least some investments in which: the value of the investment is less than or equal to the value of the asset, the term of the investment is substantially equal to the preferred term, or the value and term of the investment are substantially matched to the value of the asset and the preferred term respectively; and receiving an indication of a selected investment.

In a still further aspect the invention may also be said to consist in a method of determining part of the value of an asset for an investment, comprising: receiving data

relating to market value of the asset and to a preferred term of the investment, determining an amount for potential investment as a portion of the value of the asset, calculating market values for a range of possible investments using the portion of the value of the asset, presenting a range of market values for the range of possible investments, including at least some investments in which: the value of the investment is less than or equal to the value of the asset, the term of the investment is substantially equal to the preferred term, or the value and term of the investment are substantially matched to the value of the asset and the preferred term respectively; and receiving an indication of a selected investment.

In a fourth aspect the invention may further be said to consist in a method of determining an amount for investment, comprising: receiving data relating to a preferred amount for investment and to a preferred term of the investment, calculating the value of an asset which would yield the preferred amount for investment as a return, calculating market values for a range of possible investments using the preferred amount of investment and the preferred term, presenting a range of market values for the range of investments, including at least some in which: the value of the investment is less than or equal to the value of the asset, the term of the investment is substantially equal to the preferred term, or the value and term of the investment are substantially matched to the value of the asset and the preferred term respectively; and receiving an indication of a selected investment.

In yet further aspect the invention may also be said to consist in a computer system which provides a financial service according to a method as set out in any one of the aspects above. Such a system may be provided in many forms, preferably as a central server computer connected to a network of remote terminals or point of sale stations. The terminals act as data entry and access points at which sales personnel interact with customers of a financial service organisation which implements the invention. The system may also be set up on an Internet server computer to which access is gained by customers using browser programs.

BRIEF DESCRIPTION OF FIGURES

The invention will be described by way of example, with reference to the accompanying drawings, of which:

Figure 1 is a schematic diagram indicating a computer system which may be used to provide a financial service according to the invention,

Figure 2 is a flowchart outlining steps which might be taken by software on the computer system to provide a service according to one embodiment of the invention,

Figure 3 is a flowchart outlining steps which might be taken by software on the computer system to provide an alternative related service,

Figure 4 is a general screen of information which might be presented to a customer as part of the service outlined in Figure 2,

Figure 5 is a preferred screen of information which might be presented to a customer, and

Figures 6a-e show more specific screen information which might also be presented.

DETAILED DESCRIPTION OF PREFERRED EMBODIMENTS

Referring to these drawings it will be appreciated that the invention is still in a prototype form, and may be performed by a computer system in various ways within the scope of the following claims. Software which implements the invention may be written in various computer languages to operate on various items of hardware which will be familiar to a skilled person. A range of alternative special features may also be produced on screen for users according to the requirements of a particular financial service provider, without need of detailed description.

Figure 1 shows a computer system which may used by a financial service organisation to provide a range of investment services for customers, including various services in accord with the invention. This simplified system has at least one computer server 100 which contains a central processing unit 105 and a number of databases 106. The processing unit contains software which is required to carry out daily business activities of the organisation while the databases contain various kinds of data as required by the software, including customer information and market related information. Customers are served at a network of terminals 110 which are operated by staff of the organisation at its business premises. The terminals may be networked or otherwise connected to the server in various ways shown here in a schematic arrangement, and may be more or less able to operate independently of the server. Other devices such as a printer 111 are also normally part of such a network.

A modern financial service organisation usually receives daily information from a number of external sources. The information is typically communicated from one computer to another and may be accessed by software on the server 100 or directly by staff of the organisation as required. Connections between the server and other computers operated by a banking institution 120 and a financial market institution 121 are indicated in a simple form by way of example. Information may be sold or otherwise shared between

the institutions on a national or international basis with the computers being located in different cities or countries. The computer connections are typically provided as leased or dialup lines 125 through the public telephone network. Arrangements of this kind will be well known to the skilled reader and need not be described in detail.

Figure 2 outlines the process by which a customer interacts with a staff member of the organisation at one of the computer terminals 110 in Figure 1. This process is driven largely by software stored on the server, or at the terminal, and in many cases can take place without needing the presence of a staff member. Alternatively the terminal could be placed separately at a retail outlet, or could represent a website accessible by the customer over the Internet. Step 200 begins the process with a prompt for the individual's name and address. Once entered these details are compared with a database of customer information to identify the individual as an existing customer, whose details may need an update, or as the source of a new enquiry. Some details of an asset which the customer wishes to use as the basis for an investment are also entered. The asset may be a house, for example. In step 205 the customer is prompted to enter the current market value of the asset, as a verification of its value at that point in time. A value of $100,000 might be entered for the house, and stored with the customer details entered in the previous step.

Other characteristics of the asset are required in step 210, including a measure of life expectancy and a method of depreciation. The house may have been built last year with a life expectancy of 20 years, and may be depreciated on a straight line basis, for example. Information of this kind will have a bearing on book value of the asset and therefore, in assessment of the asset's market value and discount value. Step 215 continues the process by prompting the customer for a preferred term of investment. A term of one year might be selected in the present example. The information collected in steps 210 and 215 is stored with that of the previous steps to enable a calculation of possible investments by the customer as will be described below. Additional external information is also obtained by the computer system at some point during the process, shown here in step 220, or at an appropriate time earlier during the day. This includes bank deposit rates and other market forecast information such as the consumer price index for the preferred term of the customer's investment.

Step 225 of the process then seeks to determine whether or not the asset is a source of income or some other return over the preferred term of investment. If so the value of the return is entered at step 230. The house may be leased as an apartment suite with a contractual commitment from the tenant, generating a rental income of $10,000 per year,

for example. Otherwise the customer enters at step 235 an estimate of the return which might be obtained if the asset was fully utilised. The customer may be living in the house, in which case the potential income is an estimate of the difference between its market rental and the cost to the customer of living elsewhere. This estimate represents an opportunity loss to the customer equivalent to the return entered in step 230 for the purposes of calculating an investment according to the invention.

Step 240 then determines a present value for the potential return over the preferred term of investment. Present and future values may be calculated using Microsoft Excel formulae, for example. The present value is defined in accounting terms as "the total amount that a series of future payments is worth now", and calculated as a function PV(rate, nper, pmt, fv, type). The future value is defined as "the cash balance which is to be obtained after the last payment has been made" and calculated as a function FV(rate, nper, pmt, pv, type). In these functions, "rate" is the interest rate per period of payment, "nper" is the total number of payments, "pmt" is the payment made each period assumed to be fixed, and "type" is 0 or 1 depending on whether payments are due at the start or end of each period. Each function can receive output from the other as input "pv" or "fv" respectively, which are otherwise assumed to be zero (the future value of a loan is zero for example).

A discount value may then be calculated for the asset using other elements of the information which has been entered by the customer. This involves a combination of the current market value, life expectancy and method of depreciation, term of investment, bank deposit rate and market valuation over the term, and of course the potential return from the asset. In the case of an actual rental return of $10,000 per year the PV and FV formulae yield a discount value of $9,091. In the case of a rental opportunity loss of $10,000, a bank deposit rate of 10% yields the same discount value, based on future and present values for the house of $100,000 and $90,091 respectively. A further alternative manner in which a discount value may be estimated is simply as a fixed proportion of the future value of the asset, for example 10%. An estimate of this kind avoids the need to carry out a specific calculation of a discount value which in any case yields an approximate amount.

In step 245 the computer system then accesses one or more sources of market information and calculates a range of possible investments which could be made by the customer. The investments involve amounts up to and approximately equal to the discount value of the asset, over a range of terms up to and approximately equal to the preferred term indicated

by the customer. The discount value is therefore used as a guideline for prudent investment, although the value itself is approximate and may be calculated in various ways such as those mentioned above. The market information may be obtained from many competing sources, on a real, delayed or historical basis, including Reuters, Bloomberg, Futures Source and a number of Internet web sites. The investments may take many forms as generally available to a fund manager, preferably future arrangements and similar contracts for the purposes of the invention.

Step 250 presents the range of possible investments to the customer on screen in a tabular form such as shown in Figure 4 and more preferably in Figure 5. The tables shown in these figures are displayed in a preferred form with the possible amounts of investment increasing downwards and the possible terms of investment increasing horizontally. In futures markets the amount invested is often called the "insurance cost", being the maximum amount which can be lost by the investor. The market value of each possible futures investment at the end of the term is indicated as the "money bought" and fills the body of the table for analysis by the customer as an investor. It can be seen for example, that an investment of $9,000 approximately equal to the discount value in the house asset case mentioned above, over a one year term, had a leveraged market value of $225,000 based on market information available at the time this table was presented. The difference between the tables in Figures 4 and 5 is that the former presents investment amounts which increase up to value of the asset itself. The latter table is limited to amounts less than or equal to the discount value which is the maximum which would normally be recommended.

Step 255 indicates reduced forms of the table which are available for selection by the customer according to the invention. The customer is advised to select an amount to invest based on one of four criteria, namely (i) a match of the market value of the investment to the future value of the asset, (ii) a match of the length of the term of investment to the length of the preferred term, (iii) a match of both the market values and the terms, or (iv) a match of the amount of investment to the discount value of the asset. In each case additional information is then presented to the customer on screen for further analysis as described below. The table of Figure 5 is based approximately on the house asset example, and the matches offered in options (i), (ii), (iii) and (iv) can be seen in the range of investment possibilities which are presented. Matches according to option (i) are shown in four of the six columns at a market value of $100,000 indicated by asterisk. Matches according to option (ii) are those shown in the fourth column for a one year term, and for some, the value of the investment is much greater than the value of the asset. A

match of $100,000 for one year according to option (iii) is indicated by a double asterisk for a cost of $4000, substantially less than the calculated discount value. Matches according to option (iv) are those shown in the bottom row.

In step 260, having selected a possible match option the customer is then presented with the on screen information in a reduced form, and generally limited to those investments involving costs approximately equal to or less than the discount value. Tables may be presented such as shown in Figures 6a-e. Selections for option (i) involving matched market values, may be tabled as shown in Figure 6a for example, which displays investment amounts up to $4000 for terms up to one year, which all yield the asset value of $100,000. An alternative more conservative table for option (i) is shown in Figure 6b, in which some market values for investments less than the value of the asset are also presented. Figure 6c shows the selections available for option (ii) involving a matched term of investment. The single selection available for option (iii) matching both market value and term is shown in a still simpler form in Figure 6d. The single selection available for option (iv) involving an investment amount approximately equal to the discount value is shown in Figure 6e. It would be possible for more than one of these tables of recommended selections to be presented on a single screen. The intention is to make prudent limits for investment clear to a customer. A specific selection for actual investment can then be made in an informed fashion by an interactive entry at the computer terminal.

Step 265 summarises other matters relating to formulation and operation of a contract between the customer and the financial service organisation. Having reaching this step it is assumed that the customer wishes to proceed with a particular investment from the options presented. The customer will usually assign the organisation a discretionary or non-discretionary mandate to manage the investment. The amount invested then becomes part of a fund which is managed in an appropriate fashion, with issue of status reports, customer benefits, advice on other investments, and so on. Fund management techniques and requirements will be well known to the reader and need not be described in detail. Eventually the investment will reach maturity at the selected term and the customer may receive a final payout, or the investment may roll over for another or a different term.

Figure 3 outlines an alternative process by which a customer may interact with the organisation through one of the terminals 110 in Figure 1, or over the Internet. The process is driven largely by software on the computer system set up by the organisation as before. In this alternative the customer begins with an investment amount already in

mind and is guided to consider the approximate market value of a notional asset on which that amount could be based without risking loss of the asset should the investment fail. Step 300 begins the process with a prompt for the individual's name and address, and a check on whether they are already entered on the customer database. In step 305 the customer is prompted to enter their preferred amount for investment, followed by a preferred term of the investment in step 310. The preferred amount may be selected from a range of possible amounts presented on screen. Additional external information is once again obtained by the computer system in step 315, including a bank deposit rate for the preferred term and other relevant data which may be required to calculate the value of a notional asset. A calculation of the future value of the notional asset is then made in step 320, using the preferred amount of investment as a return which could hypothetically be obtained from the asset at the bank deposit rate, for example.

Given the future value of the notional asset, and the assumed income from the asset (being the preferred investment amount), a hypothetical future value and discount value can then be calculated in step 325. The discount value is preferably calculated using Microsoft Excel formulae as mentioned above. The discount value could also be taken simply as a fraction of the future value of the notional asset although the basis for choosing any particular fraction is likely to be somewhat arbitrary. Assume by way of example, that the customer's initially preferred investment is $10,000 over a term of one year. Assuming an appropriate bank deposit rate of 10% yields a future value for an asset, perhaps a house, of $100,000. The present value of $10,000 over one year at 10% is $9,091 which becomes the discount value.

Steps 330 to 350 then follow steps 245 to 265 as in Figure 2. A range of leveraged market values are calculated for the preferred investment amount and displayed in tabular form for inspection by the customer. The calculation preferably offers the customer a selection of matched investment options (i)-(iv) as already described, and the customer may go on to formulate a contract for management of the investment by the financial service provider. The customer may well decide that their initial choice of amount and term for investment create an unreasonable risk when the range of market values for potential investments is presented in relation to a notional asset.

Methods according to the invention enable financial service organisations to guide their customers in making prudent investment choices. Using the discount value of a potential return from an asset provides a rational basis for presenting the customer with useful guidelines, although approximations to the discount value could also be used. Presenting

the customer with a number of matched investment options also serves to guide the customer in making their investment. The invention is defined by the spirit and scope of following claims.

CLAIMS:

1. A method of determining part of the value of an asset for an investment, comprising:

- receiving data relating to market value of the asset and to a preferred term of the investment,
- receiving data relating to potential return from the asset over the preferred term,
- calculating a discount value for the asset from the potential return,
- calculating market values for a range of potential investments using the discount value of the asset and the preferred term of investment,
- presenting a range of market values for the range of investments, and
- receiving an indication of a selected investment.

2. A method according to claim 1 wherein:

- the market values of the investments are calculated to be less than or equal to the future value of the asset.

3. A method according to claim 1 wherein:

- the terms of the investments are calculated to match the preferred term of investment.

4. A method according to claim 1 wherein:

- the investments are calculated to match both the future value of the asset and the preferred term of investment.

5. A method according to claim 1 wherein:

- the market values of the investments are calculated using investment amounts which are less then or equal to the discount value of the asset.

6. A method according to claim 1 wherein:

- a range of market values for a range of investments less than or equal to the future value of the potential return from the asset are presented.

7. A method according to claim 1 wherein:

- the data relating to market value of the asset includes current market valuation, life expectancy and method of depreciation of the asset.

8. A method according to claim 1 wherein:

- the discount value is calculated as the present value of returns from the asset using Microsoft Excel formulae.

9. A method according to claim 1 wherein:

- the investments are calculated using futures and options market data.

10. A method of determining part of the value of an asset for an investment, comprising:

- receiving data relating to market value of the asset and to a preferred term of the investment,
- receiving data relating to potential return from the asset over the preferred term,
- calculating market values for a range of possible investments according to the potential return from the asset,
- presenting a range of market values for the range of investments, including at least some investments in which:
  - the amounts invested are less than or equal to the potential return from the asset,
  - the value of the investment is less than or equal to the value of the asset,
  - the term of the investment is substantially equal to the preferred term, or
  - the value and term of the investment are substantially matched to the value of the asset and the preferred term respectively, and
- receiving an indication of a selected investment.

11. A method of determining part of the value of an asset for an investment, comprising:

- receiving data relating to market value of the asset and to a preferred term of the investment,
- determining an amount for potential investment as a portion of the value of the asset,
- calculating market values for a range of possible investments using the portion of the value of the asset,
- presenting a range of market values for the range of possible investments, including at least some investments in which:
  - the amounts invested are less than or equal to the portion of the value of the asset,
  - the value of the investment is less than or equal to the value of the asset,
  - the term of the investment is substantially equal to the preferred term, or

- the value and term of the investment are substantially matched to the value of the asset and the preferred term respectively, and

- receiving an indication of a selected investment.

12. A method of determining an amount for investment, comprising:

- receiving data relating to a preferred amount for investment and to a preferred term of the investment,

- calculating the value of an asset which would yield the preferred amount for investment as a return,

- calculating market values for a range of possible investments using the preferred amount of investment and the preferred term,

- presenting a range of market values for the range of investments, including at least some in which:

- the invested amounts are less than or equal to the preferred amount for investment,

- the value of the investment is less than or equal to the value of the asset,

- the term of the investment is substantially equal to the preferred term, or

- the value and term of the investment are substantially matched to the value of the asset and the preferred term respectively, and

- receiving an indication of a selected investment.

13. A computer system which provides a financial service according to a method as claimed in any one of the preceding claims.

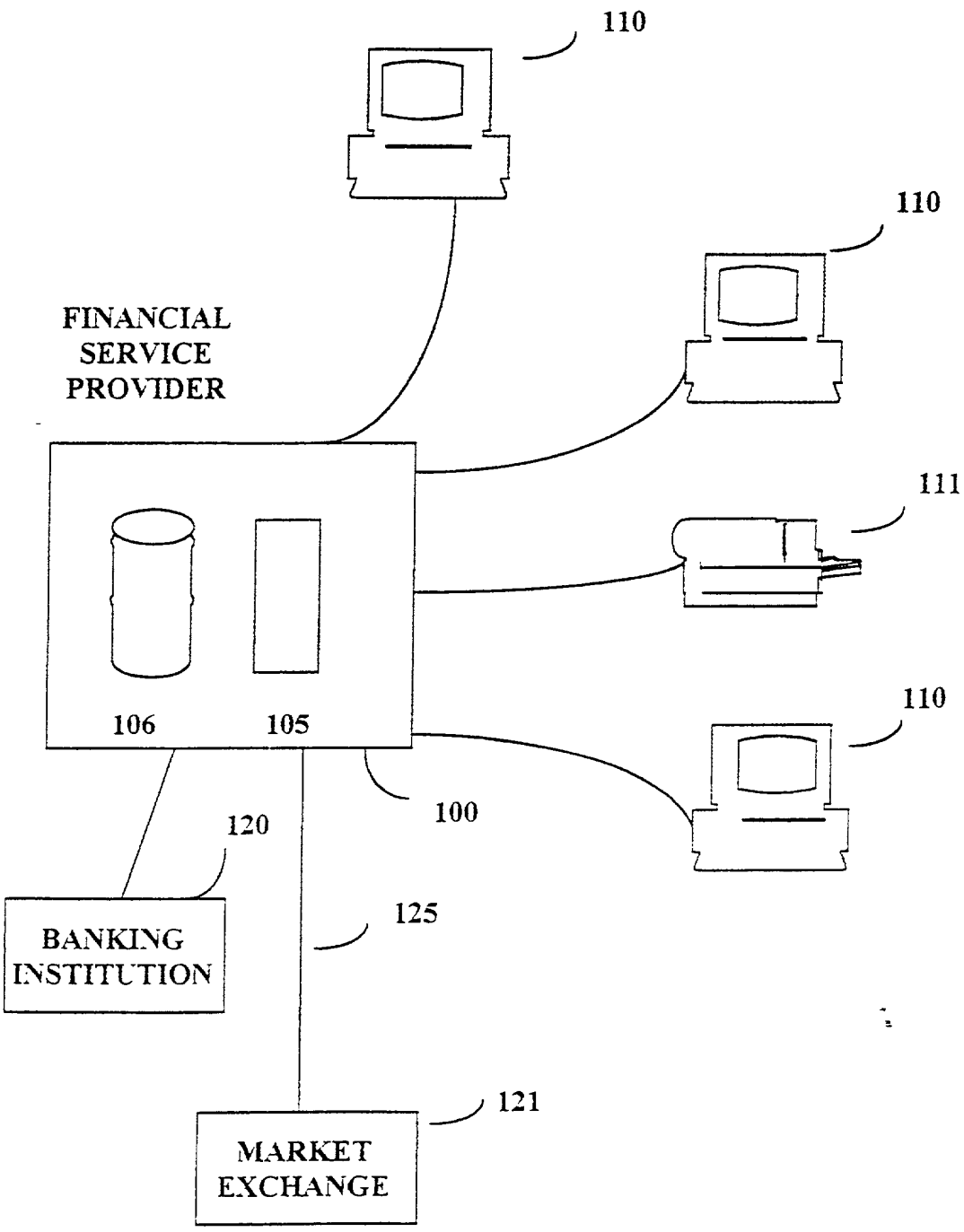
110
110
FINANCIAL SERVICE PROVIDER
111
106
105
110
100
120
BANKING INSTITUTION
125
121
MARKET EXCHANGE

FIGURE 1

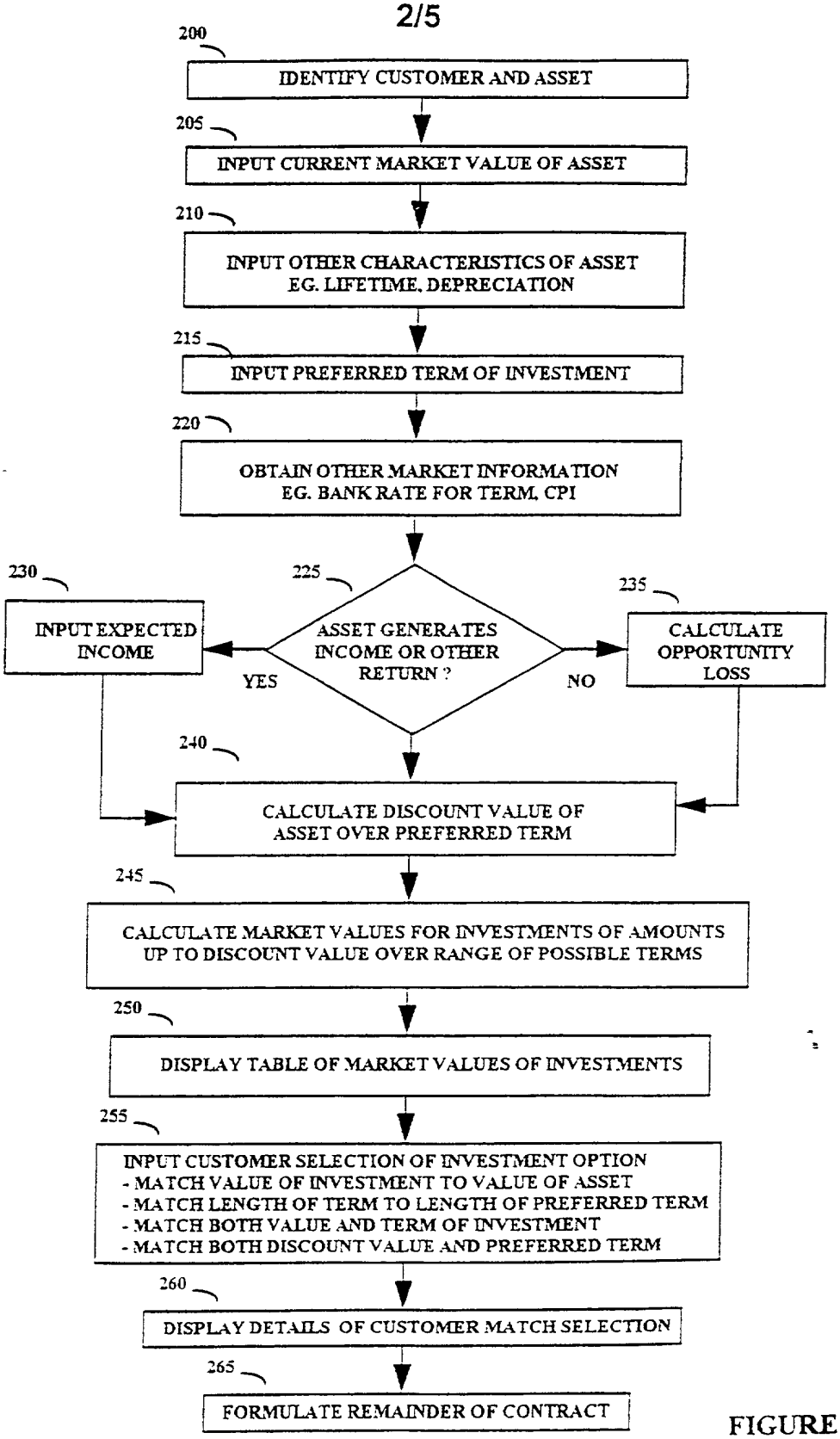
200
IDENTIFY CUSTOMER AND ASSET
205
INPUT CURRENT MARKET VALUE OF ASSET
210
INPUT OTHER CHARACTERISTICS OF ASSET
EG. LIFETIME, DEPRECIATION
215
INPUT PREFERRED TERM OF INVESTMENT
220
OBTAIN OTHER MARKET INFORMATION
EG. BANK RATE FOR TERM, CPI
225
ASSET GENERATES INCOME OR OTHER RETURN ?
YES
NO
230
INPUT EXPECTED INCOME
235
CALCULATE OPPORTUNITY LOSS
240
CALCULATE DISCOUNT VALUE OF ASSET OVER PREFERRED TERM
245
CALCULATE MARKET VALUES FOR INVESTMENTS OF AMOUNTS UP TO DISCOUNT VALUE OVER RANGE OF POSSIBLE TERMS
250
DISPLAY TABLE OF MARKET VALUES OF INVESTMENTS
255
INPUT CUSTOMER SELECTION OF INVESTMENT OPTION
- MATCH VALUE OF INVESTMENT TO VALUE OF ASSET
- MATCH LENGTH OF TERM TO LENGTH OF PREFERRED TERM
- MATCH BOTH VALUE AND TERM OF INVESTMENT
- MATCH BOTH DISCOUNT VALUE AND PREFERRED TERM
260
DISPLAY DETAILS OF CUSTOMER MATCH SELECTION
265
FORMULATE REMAINDER OF CONTRACT

FIGURE 2

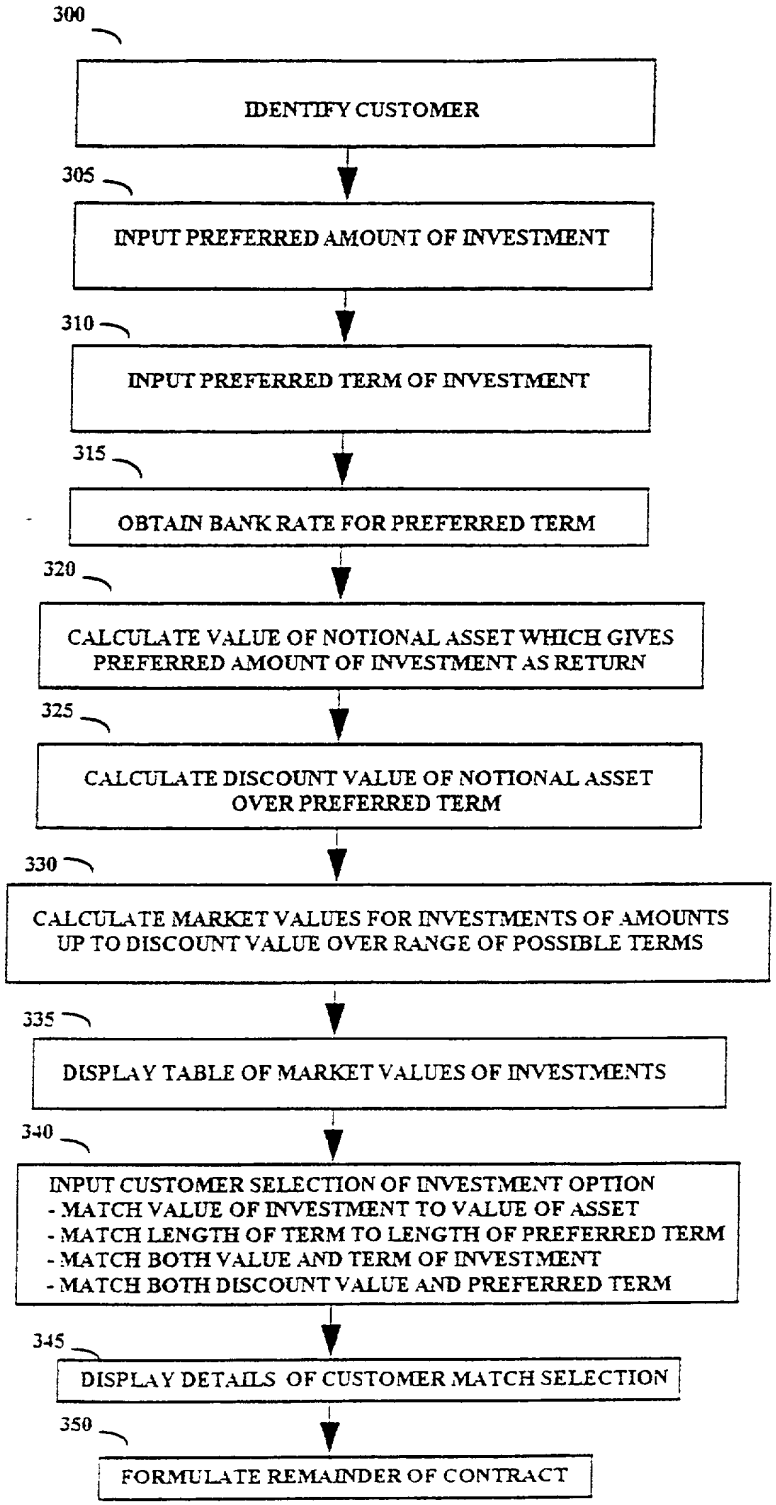
300
IDENTIFY CUSTOMER
305
INPUT PREFERRED AMOUNT OF INVESTMENT
310
INPUT PREFERRED TERM OF INVESTMENT
315
OBTAIN BANK RATE FOR PREFERRED TERM
320
CALCULATE VALUE OF NOTIONAL ASSET WHICH GIVES PREFERRED AMOUNT OF INVESTMENT AS RETURN
325
CALCULATE DISCOUNT VALUE OF NOTIONAL ASSET OVER PREFERRED TERM
330
CALCULATE MARKET VALUES FOR INVESTMENTS OF AMOUNTS UP TO DISCOUNT VALUE OVER RANGE OF POSSIBLE TERMS
335
DISPLAY TABLE OF MARKET VALUES OF INVESTMENTS
340
INPUT CUSTOMER SELECTION OF INVESTMENT OPTION
- MATCH VALUE OF INVESTMENT TO VALUE OF ASSET
- MATCH LENGTH OF TERM TO LENGTH OF PREFERRED TERM
- MATCH BOTH VALUE AND TERM OF INVESTMENT
- MATCH BOTH DISCOUNT VALUE AND PREFERRED TERM
345
DISPLAY DETAILS OF CUSTOMER MATCH SELECTION
350
FORMULATE REMAINDER OF CONTRACT

FIGURE 3

INSURANCE COST	MONEY BOUGHT					
	1 MONTH	3 MONTH	6 MONTH	1 YEAR	2 YEAR	3 YEAR
$1,000	$100,000	$50,000	$33,333	$25,000	$10,000	$7,143
$2,000	$200,000	$100,000	$67,667	$50,000	$20,000	$14,286
$3,000	$300,000	$150,000	$100,000	$75,000	$30,000	$21,429
$4,000	$400,000	$200,000	$133,333	$100,000	$40,000	$28,571
$5,000	$500,000	$250,000	$166,667	$125,000	$50,000	$35,714
$6,000	$600,000	$300,000	$200,000	$150,000	$60,000	$42,857
$7,000	$700,000	$350,000	$233,333	$175,000	$70,000	$50,000
$8,000	$800,000	$400,000	$266,667	$200,000	$80,000	$57,143
$9,000	$900,000	$450,000	$300,000	$225,000	$90,000	$64,286
$10,000	$1,000,000	$500,000	$333,333	$250,000	$100,000	$71,429
$15,000	$1,500,000	$750,000	$500,000	$375,000	$150,000	$107,143
$20,000	$2,000,000	$1,000,000	$666,667	$500,000	$200,000	$142,857
$30,000	$3,000,000	$1,500,000	$1,000,000	$750,000	$300,000	$214,286
$40,000	$4,000,000	$2,000,000	$1,333,333	$1,000,000	$400,000	$285,714
$50,000	$5,000,000	$2,500,000	$1,666,667	$1,250,000	$500,000	$357,143
$100,000	$10,000,00	$5,000,000	$3,333,333	$2,500,000	$1,000,00	$714,286

FIGURE 4

INSURANCE COST	MONEY BOUGHT					
	1 MONTH	3 MONTH	6 MONTH	1 YEAR	2 YEAR	3 YEAR
$1,000	$100,000	$50,000	$33,333	$25,000	$10,000	$7,143
$2,000	$200,000	$100,000	$67,667	$50,000	$20,000	$14,286
$3,000	$300,000	$150,000	$100,000	$75,000	$30,000	$21,429
$4,000	$400,000	$200,000	$133,333	$100,000	$40,000	$28,571
$5,000	$500,000	$250,000	$166,667	$125,000	$50,000	$35,714
$6,000	$600,000	$300,000	$200,000	$150,000	$60,000	$42,857
$7,000	$700,000	$350,000	$233,333	$175,000	$70,000	$50,000
$8,000	$800,000	$400,000	$266,667	$200,000	$80,000	$57,143
$9,000	$900,000	$450,000	$300,000	$225,000	$90,000	$64,286

FIGURE 5

INSURANCE COST	MONEY BOUGHT			
	1 MONTH	3 MONTH	6 MONTH	1 YEAR
$1,000	$100,000			
$2,000		$100,000		
$3,000			$100,000	
$4,000				$100,000

FIGURE 6a

INSURANCE COST	MONEY BOUGHT					
	1 MONTH	3 MONTH	6 MONTH	1 YEAR	2 YEAR	3 YEAR
$1,000	*$100,000*	$50,000	$33,333	$25,000	$10,000	$7,143
$2,000		*$100,000*	$66,667	$50,000	$20,000	$14,286
$3,000			*$100,000*	$75,000	$30,000	$21,429
$4,000				*$100,000*	$40,000	$28,571
$5,000					$50,000	$35,714
$6,000					$60,000	$42,857
$7,000					$70,000	$50,000
$8,000					$80,000	$57,143
$9,000					$90,000	$64,286

FIGURE 6b

INSURANCE COST	MONEY BOUGHT 1 YEAR
$1,000	$25,000
$2,000	$50,000
$3,000	$75,000
$4,000	$100,000
$5,000	$125,000
$6,000	$150,000
$7,000	$175,000
$8,000	$200,000
$9,000	$225,000

FIGURE 6c

INSURANCE COST	MONEY BOUGHT 1 YEAR
$4,000	$100,000

FIGURE 6d

INSURANCE COST	MONEY BOUGHT 1 YEAR
$9,000	$225,000

FIGURE 6e

DECLARATION FILED WITH U.S. DESIGNATED OFFICE UNDER 35 U.S.C. 371 (c)(4)

Docket No. _____

As a below named inventor, I hereby declare that:
My residence, post office address and citizenship are as stated below next to my name;
I verily believe I am the original, first and sole inventor (if only one name is listed below) or a joint inventor (if plural inventors are named below) of the invention entitled: FINANCIAL SERVICES SYSTEM FOR REDUCING RISKS IN INVESTMENTS
described and claimed in international application no. PCT/NZ98/00138 filed September 18, 1998 and as amended on _____ (if any), which I have reviewed and for which I solicit a United States patent;

I hereby state that I have reviewed and understand the contents of the above identified specification, including the claims, as amended by any amendment referred to above.

I acknowledge the duty to disclose information which is material to the examination of this application in accordance with Title 37, Code of Federal Regulations, §1.56(a).

I hereby claim foreign priority benefits under Title 35, United States Code, §119 of any foreign application(s) for patent or inventor's certificate listed below and have also identified below any foreign application for patent or inventor's certificate having a filing date before that of the application on which priority is claimed.

EARLIEST FOREIGN APPLICATION(S), IF ANY, FILED WITHIN 12 MONTHS PRIOR TO THE INTERNATIONAL APPLICATION				
COUNTRY	APPLICATION NUMBER	FILING DATE (DAY/MO/YR)	ISSUE DATE (DAY/MO/YR)	35USC119 PRIORITY CLAIMED
New Zealand	328785	Sept. 19, 1997		(X)YES ( )NO
				( )YES ( )NO
ALL FOREIGN APPLICATIONS, IF ANY, FILED MORE THAN 12 MONTHS PRIOR TO THE INTERNATIONAL APPLICATION				

I hereby claim the benefit under Title 35, United States Code, §120 of any United States application(s) listed below and, insofar as the subject matter of each of the claims of this application is not disclosed in the prior United States application in the manner provided by the first paragraph of Title 35, United States Code, §112, I acknowledge the duty to disclose material information as defined in Title 37, Code of Federal Regulations, §1.56(a) which occurred between the filing date of the prior application and the national or PCT international filing date of this application:

(Application Serial No.) (Filing Date) (Status-patented, pending, abandoned)

(Application Serial No.) (Filing Date) (Status-patented, pending, abandoned)

I hereby appoint the following attorney(s) and/or agent(s) to prosecute this application and to transact all business in the Patent and Trademark Office connected therewith:

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(703) 412-1155 Ext. 23

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

100

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Full name of second joint inventor _____
Inventor's signature _____ Date _____
Residence _____ Citizenship _____
Post Office Address _____